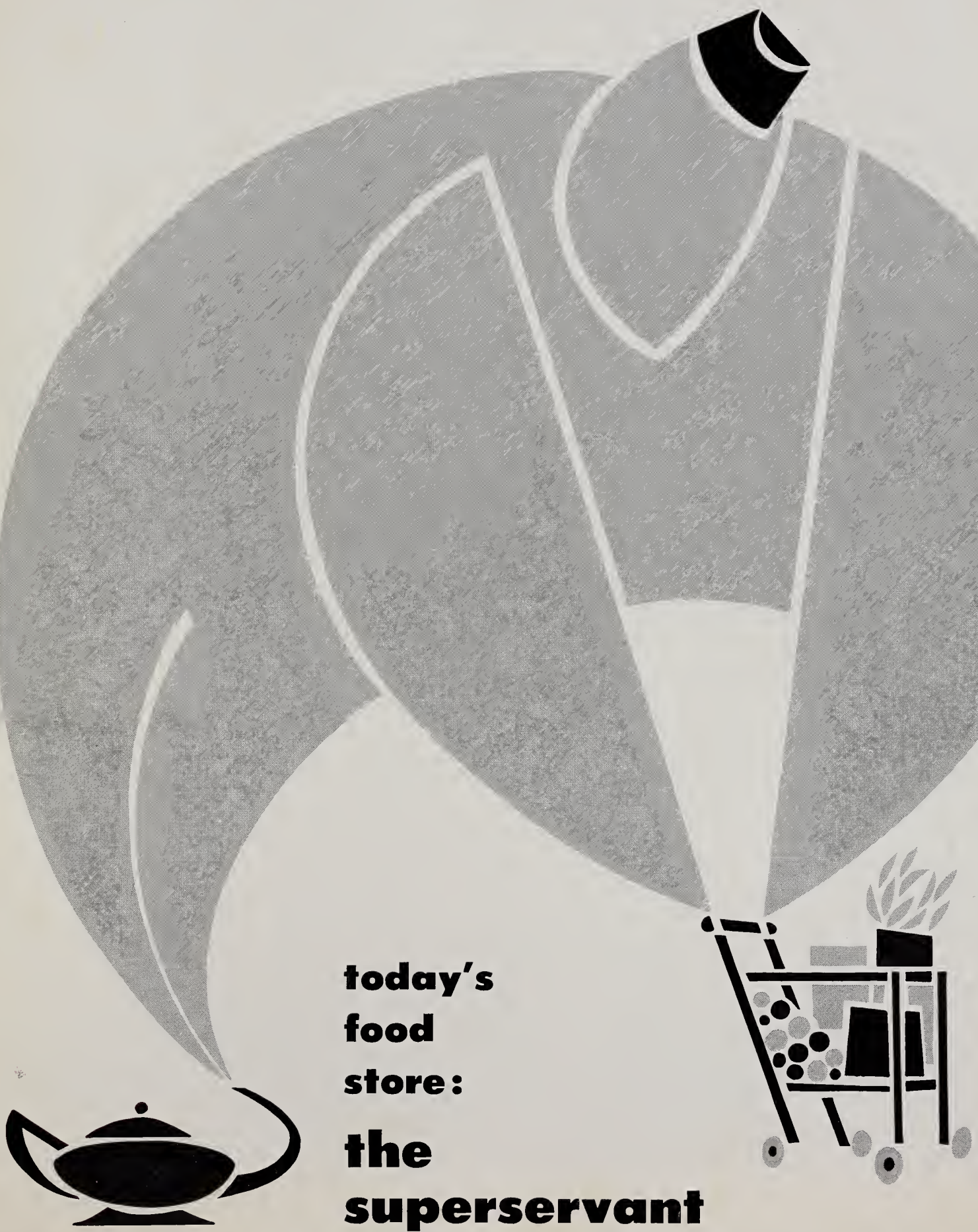
THE FARM INDEX

ECONOMIC RESEARCH SERVICE • U. S. DEPARTMENT OF AGRICULTURE • APRIL 1964



today's food store: the superservant

Economic Trends

ITEM	UNIT OR BASE PERIOD	'57 - '59 AVERAGE	1963		1963 - 64		
			YEAR	FEBRUARY	DECEMBER	JANUARY	FEBRUARY
Prices:							
Prices received by farmers	1910-14=100	242	241	240	237	243	240
Crops	1910-14=100	223	238	231	241	243	242
Livestock and products	1910-14=100	258	244	251	234	242	238
Prices paid, interest, taxes and wage rates	1910-14=100	292	312	312	311	313	313
Family living items	1910-14=100	286	298	298	298	298	299
Production items	1910-14=100	262	273	274	270	273	271
Parity ratio		83	78	78	76	78	77
Wholesale prices, all commodities	1957-59=100	—	100.3	100.2	100.3	101.0	100.5
Commodities other than farm and food	1957-59=100	—	100.7	100.6	101.2	101.3	101.3
Farm products	1957-59=100	—	95.7	96.5	93.3	96.3	94.5
Food, processed	1957-59=100	—	101.1	100.5	100.4	102.5	100.9
Consumer price index, all items	1957-59=100	—	106.7	106.1	107.6	107.7	—
Food	1957-59=100	—	105.1	105.0	105.4	105.8	—
Farm Food Market Basket:[1]							
Retail cost	Dollars	1,037	1,078	1,084	1,076	1,079	—
Farm value	Dollars	410	394	398	384	398	—
Farm-retail spread	Dollars	627	684	686	692	681	—
Farmers' share of retail cost	Per cent	40	37	37	36	37	—
Farm Income:							
Volume of farm marketings	1947-49=100	123	136	112	158	159	114
Cash receipts from farm marketings	Million dollars	32,247	36,248	2,399	3,409	3,380	2,370
Crops	Million dollars	13,766	16,706	960	1,912	1,681	940
Livestock and products	Million dollars	18,481	19,542	1,439	1,497	1,699	1,430
Realized gross income	Billion dollars	—	41.1	—	41.4[7]	—	—
Farm production expenses	Billion dollars	—	28.8	—	29.1[7]	—	—
Realized net income	Billion dollars	—	12.2	—	12.3[7]	—	—
Agricultural Trade:							
Agricultural exports	Million dollars	4,105	5.585	492	588	542	—
Agricultural imports	Million dollars	3,977	4,011	374	367	332	—
Land Values:							
Average value per acre	1957-59=100	—	—	121[3]	128[6]	—	—
Total value of farm real estate	Billion dollars	—	—	141.6[3]	148.6[6]	—	—
Gross National Product[2]	Billion dollars	456.7	585.1	—	600.1	—	—
Consumption[2]	Billion dollars	297.3	373.1	—	379.9	—	—
Investment[2]	Billion dollars	65.1	82.3	—	87.1	—	—
Government expenditures[2]	Billion dollars	92.4	125.1	—	127.7	—	—
Net exports[2]	Billion dollars	1.8	4.5	—	5.4	—	—
Income and Spending:							
Personal income, annual rate	Billion dollars	365.2	463.0	452.9	476.0	478.1	478.3
Total retail sales[4]	Million dollars	17,105	20,534	20.374	20.908	20,980	21,174
Retail sales of food group[4]	Million dollars	4,159	5,912	4,894	4,966	5,016	—
Employment and Wages[4]							
Total civilian employment	Millions	64.9	68.8	68.1	69.2	69.6	69.8
Agricultural	Millions	6.0	4.9	4.9	4.9	4.9	4.8
Rate of unemployment	Per cent	5.5	5.7	5.9	5.5	5.6	5.4
Workweek in manufacturing	Hours	39.8	40.4	40.0	40.8	40.1	40.6
Hourly earnings in manufacturing, unadjusted	Dollars	2.12	2.46	2.43	2.50	2.51	2.51
Industrial Production [4]	1957-59=100	—	124	120	127	127	128
Manufacturers' Shipments and Inventories [4 5]							
Total shipments, monthly rate	Million dollars	28,736	34,774	34,114	36,021	36,500	—
Total inventories, book value end of month	Million dollars	51,158	58,796	58,021	60,147	59,891	—
Total new orders, monthly rate	Million dollars	28,374	35,089	34,636	35,619	36,730	—

[1] Average annual quantities of farm food products based on purchases per wage-earner or clerical-worker family in 1952—estimated monthly. [2] Annual rates seasonally adjusted fourth quarter. [3] As of November 1, 1962. [4] Seasonally adjusted. [5] Revised Series. [6] As of November 1, 1963. [7] Fourth quarter.

Sources: U.S. Department of Agriculture (Farm Income Situation, Marketing and Transportation Situation, Agricultural Prices, Foreign Agricultural Trade and Farm Real Estate Market Developments); U.S. Department of Commerce (Industry Survey, Business News Reports, Advance Retail Sales Report and Survey of Current Business); and U.S. Department of Labor (The Labor Force and Wholesale Price Index).

the agricultural outlook

Farmers' planting intentions, surveyed each March, provide the first good idea of the year's output of crops . . . although final decisions often vary from plans.

According to the March 1 report this year, total crop acreage may go only 1 million acres over 1963's 309 million. However, more than the usual variation may be in store this year. Intentions were reported during the sign up for the feed grain program and while cotton and wheat legislation was pending. Also, farmers whose whole-farm conservation reserve contracts expired at the end of 1963 may have deferred making their plans on land use.

If intentions are carried out, feed grain acreage will slip 3 per cent from last year to 127 million acres. Barley and oat plantings lead the decline; corn may be down 2 per cent, sorghums only slightly. But, normal weather and the usual yield increases could offset the prospective drops and lead to a feed grain crop about like the near record 156 million tons last year.

Cotton planting intentions March 1 were the same as planted last year. Another planting of 14.8 million acres, however, may not produce as many bales as last year—1963 yields were much above any previous year.

Spring wheat acreage plans show a 6 per cent gain from last year . . . could boost the 1964 all-wheat crop to the 1958-62 average and above 1963's below normal crop.

Soybeans seem to be a record-breaker every year; 1964 should prove no exception. Planting intentions for soybeans are up more in percentage than any other crop in the report—an 8 per cent rise to 32 million acres. Reason: Favorable grower prices. Beans from the 1963 crop have been selling about 20 cents a bushel above loan.

Other crops in the acreage intentions report include sugar beets, hay, rice—each up from last year—and tobacco, down 8 per cent from 1963 because of acreage allotment reductions for the 1964 crop.

Spring Livestock Prices Up: For the second quarter, the outlook points to higher prices for beef cattle, hogs and lambs.

Slaughter of fed cattle is expected to drop from the high first quarter rate. Prices are expected to run above February levels this spring . . . may continue higher in the summer.

A 4 per cent cut in farrowings last June-November is expected to show up in a reduced rate of hog slaughter by spring. Prices are likely to rise above a year earlier when second quarter slaughter was the largest since the 1944 peak.

Hog slaughter is likely to remain below a year earlier through the second half of 1964 with prices to farmers averaging higher . . . the December-February pig crop was down 5 per cent from a year earlier and indicated farrowings in March-May were down 7 per cent.

Lamb prices this spring also are likely to run above last year. Slaughter will be down from 1963 levels.

Sheep Numbers Continue Down: Sheep and lamb numbers are continuing to drop. The January 1 inventory fell 6 per cent below a year earlier to only 28.2 million head . . . the lowest figure in records going back to 1867. The peak was 56.2 million in 1942.

The decline in the sheep and lamb inventory has reduced the potential for future production. Lambs born in 1964 are likely to number 3 to 5 per cent less than last year. Eleven per cent fewer animals were on feed January 1 compared with a year ago.

Wool Prices Strong: World wool output and use are record high. In response to the in-

crease in demand, commercial stocks are down and prices are strong. Wool use, however, has not kept pace with competing synthetics . . . higher wool prices have led to increased blending and substitution of synthetics.

More Eggs, Lower Prices: High output per layer pushed first quarter egg production above a year ago.

Through mid-1965, output is expected to continue high because of a larger laying flock and an increased rate of lay. Prices will probably average lower than a year earlier.

Wheat Stocks to Drop: June 30 carryover will fall below a billion bushels for the first time since 1958. Reason: Heavy exports (850 million bushels, 211 million above last year). Although domestic food use of wheat is about steady with last year, feed and seed uses are up.

Increased disappearance will pull year-end stocks about 300 million bushels below the 1,195 million on hand June 30, 1963, and 37 per cent below the 1961 record.

Wheat prices for the 1963-64 marketing year are expected to average $1.87 per bushel, 5 cents above the loan rate.

CCC Dairy Purchases Drop: Manufactured dairy products bought under the CCC program amounted to about 7.5 billion pounds (milk equivalent) in the marketing year just ended, a decline of over a billion pounds from 1962-63. A gain in commercial consumption during 1963 was mostly responsible for reduced buying.

This permitted CCC stocks to drop considerably from year-ago levels. In early March, for example, available inventories of butter under support were down to 118 million pounds from 337 million a year earlier. Nonfat dry milk stocks declined 71 per cent to 152 million pounds last month.

Soybean Crushings Down: A drop in soybean crushings this marketing year will boost the carryover next October 1 to more than twice the minimal 15 million bushels last fall.

Crushings may be down to 450 million bushels, 25 million below last year, by the year's end. Reasons: High bean prices in relation to the combined value of oil and meal, a large supply of edible oil and a drop in domestic meal use from last year.

Processed Fruit Supplies Lower: Spring stocks of most canned and frozen fruits and fruit juices are lighter than in 1963. Processed fruit prices continue above last year's levels.

Oranges: The Florida Valencia crop (marketed mainly in the spring) is much larger than last year's short crop but is still below normal. Much of the increase over last year will be processed. California Valencia producton—marketed from late spring into early fall —is about the same as last year.

Strawberries: Early-spring supplies of fresh strawberries are expected to be well above a year ago, thanks to the greatly expanded acreage in Louisiana. Mid and late-spring acreages are about like last year.

Prices Received Down: Prices received by farmers so far this year are down nearly 1 per cent from a year earlier; cash receipts are also off. Higher prices received for crops have been more than offset by lower prices for livestock and products.

Prices paid by farmers, including interest, taxes and farm wage rates, are up fractionally but prices of some production items, particularly feeder livestock, are down.

General Economy Rising: Economic activity continued to expand in the first quarter; industrial production resumed its uptrend and income payments to consumers ran 5 per cent above January-March 1963. Retail sales were some 4 per cent above the first three months of 1962. Sales of 1964-model automobiles continued at record levels with unit sales over an 8 million annual rate.

Spending for residential construction, also at a record rate, was 10 per cent higher than in the first quarter of 1963. A high level of housing starts in recent months indicates a continued high level of spending for residential construction.

Business spending for plant and equipment in the first quarter was 12 per cent above a year ago. A further rise in business investments is expected in coming months.

Although the specialists have been running farm management studies through the computers for some time, only recently have they used it on individual farms. The chief stumbling blocks have been the time involved in gathering and preparing the necessary data and the cost of solving a complex math problem with an electronic computer.

A thorough analysis of a farm business can answer several questions for the farmer. What, for instance, is the most profitable farm organization, given the resources at hand? What crops and livestock should be raised and in what amounts? What is the most economical way of raising them?

With the help of the computers, the specialists can also indicate the opportunity costs of alternative enterprises. This cost is the difference between what he will make with one combination of crops, for instance, compared with what another, more profitable enterprise would bring in. It will tell him, for example, how much money he might lose by raising hogs when he would, theoretically, make the most profit from dairying.

In order to carry out linear programing of an individual farm the researcher must know all the resources, prices for products and costs of inputs as well as input and output data on alternative enterprises. For an alternative crop enterprise, the information required includes yields, fertilizer applications, machinery and labor requirements and production costs.

To illustrate the way linear programing can help a farmer, the specialists analyzed a farm in New York state. The Smith farm has two major enterprises, dairy and table beets, along with other field crops and forage. A look at the records for this farm indicated that the beets were more profitable than the dairy herd. So, Farmer Smith wants to know if he should expand his acreage of beets in the long run (and irrigate more of the crop) or if he should add to the dairy herd. Expanding the dairy enterprise to any extent would mean a considerable addition to total investment.

Four alternatives for expansion were programed for the machine —plan I permitted no additional resources, plan II allowed expansion of irrigation equipment, plan III included enlarging and improving the dairy barn and plan IV permitted expanding both irrigation equipment and the dairy barn. The plans were all based on 1961 costs and returns.

Plan IV turned out to be the one that would give Smith the highest net income—$27,990 compared with returns of $16,050 in 1961. However, the capital invested in the farm went from the 1961 figure of $150,900 to $194,630 after depreciation of new buildings and equipment. The plan allowed for borrowing the extra money at 6 per cent interest over a 20-year period.

The existing farm contains 319 acres of which 242 are tillable. An additional 341 acres are rented. This arrangement remained the same under plan IV. With the existing beet rotation the optimum plan allowed for 241 acres—none to be irrigated. During 1961 Smith had planted a total of 172 acres of beets and irrigated 115 acres.

Plan IV increased the acreages of hay and pasture and corn silage while reducing the acreage of wheat. The purchase of standing hay remained the same but the optimum plan said to buy an additional 143 tons of hay.

Part of Smith's problems were due to his dairy barn. The present setup, an inefficient combination of loose housing and stanchions, can accomodate 80 cows handled by two full-time hired men. A new loose-housing barn with milking parlor could be built for around $60,000. This would allow two men to handle 120 cows. However, at least $40,000 of the cost would have to be borrowed. Most of the additional capital in plan IV would be used for the new barn.

At present, Smith is renting 45 cows from a neighbor for a total of $338 a year. The calves are raised by Smith but are the property of the neighbor. However, all receipts from cows or calves culled from the herd go to Smith. The plan indicated that it would be profitable for him to continue this arrangement. Also, Smith should purchase 75 additional cows and raise 30 replacement heifers. In 1961, he had bought 38 cows and raised 21 replacements. *(1)*

Complete Analysis of Farm Operation Offers Help in Management Decisions

Properly used, a computer can assist in making management decisions for an individual farm operation. A researcher at Purdue University recently used a computer to speed his analysis of an Indiana crop and livestock farm.

The results of the analysis indicated that returns would be increased if equal amounts of soybeans and wheat were grown and the beef cow herd were reduced and if the operation continued to sell its pigs as feeders. The possibilities of hiring more seasonal labor during planting and harvesting and investing more operating capital also were proposed.

The farm analyzed is operated by two brothers. It contains 574 acres rented on 50-50 crop and livestock share leases. About 334 acres are capable of supporting continuous row crops. Another 123 acres are productive but subject to erosion if heavily cropped.

Operating capital on the farm is limited to $30,000. Long-term capital is set at $7,500 to be used over the next three to five years. Crops currently produced include corn, soybeans, wheat, oats and meadow.

At the present time, the brothers have a beef herd of 20 cows. They buy enough additional calves to feed out about 100 steers annually. The calves are turned on stubble and corn stalks in the fall, fed corn silage and limited corn in drylot during the winter and then turned on pasture and placed on a full feed of corn in late spring before sale in the fall. The hog enterprise on the farm is largely devoted to raising feeder pigs.

As long as the price for corn is between $1.01 and $1.12 per bushel and prices for other cash crops are near recent averages, the analysis of the farm indicated that it is profitable to grow soybeans only where allotments permit them to be followed by wheat. Otherwise, continuous corn is more profitable.

Among livestock enterprises, the pasture system of feeding steers already in use turned out to be the alternative with the highest return. However, the beef cow herd should be cut since the feeder calves make better use of the pasture. Producing feeder pigs was the most profitable hog enterprise.

Despite the limitation, long-term capital didn't pose a problem because no new buildings would be needed to give the brothers the most return on their land, labor and investment. The existing two barns for cattle and space for farrowing 40 litters of pigs were sufficient for the ideal combination of alternatives.

Analysis of the farm organization also revealed that a shortage of labor limited production in May, October and November. This suggests that hiring seasonal labor in these months could be worthwhile.

Additional study of capital requirements indicated that more capital could be put to use on the farm as it now exists. Unless other fixed resources such as land are purchased or hired, an extra $6,148 could be wisely invested in variable operating costs and result in a return of $646 more to gross farm income. *(2)*

Although Profit Is an Important Guide, Other Factors Affect Farm Decisions

Profit may be the most important guide to decisions on the farm, but it isn't the only one.

Personal preference alone is an important element in making decisions, according to a recent survey of 45 Ohio farm operators. Twenty-nine of the farmers queried said this subjective factor played a significant part in the way they ran their farms.

Personal preference was one of five non-economic factors that turned out to have consistent importance in the Ohio study.

The second most important influence was a lack of knowledge about possible returns from alternative choices. Twenty-eight of the farm operators thought their decisions were limited to some extent by their not having enough information.

An aversion to borrowing money showed up as the third most important subjective element in the decision-making process for the Ohio farmers. This was true even though the farmers had no special trouble getting needed capital or credit.

For about half the farmers, a

taste for leisure turned out to be important enough to determine their plans to some degree.

And a simple lack of agreement between partners, operators or landlords also helped to shape farm decisions. Of the 20 farmers in the survey who might have been affected, 15 reported that disagreement with their partners or landlords played an important part in management decisions. *(3)*

Hog-Beef Farm Assets Gain Steadily Despite Recent Unfavorable Prices

Despite the recent unfavorable price levels for his products, the typical hog-beef farmer in the Corn Belt seems to be on a solid financial footing. That's the gist of a survey (part of a nationwide study of typical commercial farms) on the financial affairs of 76 hog-beef fattening operations in the Corn Belt. In terms of size of farm, growth in capital, relatively small share of total income from off-farm sources and debt compared to assets, farmers surveyed are keeping pace with the rest of the nation's agriculture.

Farms in the survey were limited to those having 160 to 340 acres of land, 100 to 300 hogs raised in 1963, 30 to 150 feeder cattle fattened and fewer than 10 milk cows. Farmers were excluded from the survey if they were over 65 and used more than $750 of hired labor annually or worked off the farm more than 100 days a year.

The average farm in the survey contained 231 acres, about half of it rented. The average size of hog-beef farms had increased 4 per cent from 1962 to 1963 in line with the trend to bigger operations.

Total Corn Belt farm capital averaged $98,314 on January 1, 1963, with $66,066 invested in land and buildings. Farm capital gained 4 per cent in 1963 compared to a year earlier. A higher value per acre, more acres per farm and a rise of 6 per cent in value of machinery and 8 per cent in value of livestock contributed to growth in capital.

Slightly less than 10 per cent of all income reported by the 76 corn-hog producers came from off-farm sources. However, only one-fourth of the number reported working off the farm. For the farmers who did, obviously, off-farm income was a relatively important source of earnings.

Forty-four of the 76 farmers interviewed agreed to go into greater detail on their financial dealings. All of them reported they maintain checking accounts, 30 per cent have savings accounts, 25 per cent own government bonds and 14 per cent own corporate stocks and bonds. At the beginning of 1963, the average holdings were $1,700 in the checking account, $3,450 in savings account, $1,975 in government bonds and $1,115 in corporate securities.

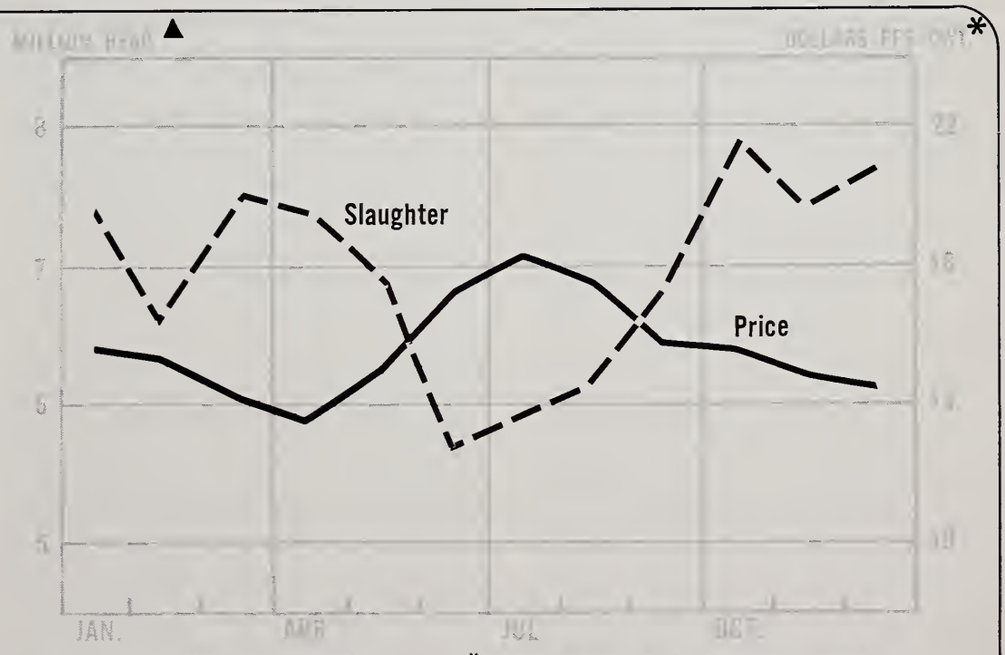
About half of these operators reported real estate debt. As of January 1, 1963, the amount averaged $13,600 per owner or part owner.

Non-real estate debt was mentioned by two-thirds of the farmers. Banks, PCAs and FHA carried practically all these loans which averaged around $9,200 per farm. Much of this money was used for purchasing feeder cattle.

The average expenditure for feeders during 1963 was about $8,600. Seven out of 10 farmers said they had used credit to finance their purchases and most of these had borrowed the full amount. *(4)*

HOG SLAUGHTER. Commercial slaughter reached the seasonal low for 1963 in June while farmers' prices reached a peak of $18.44 in July. During the remainder of the year, prices stayed below 1962 levels because of heavy rates of slaughter.

Hog slaughter will average below 1963 levels in the second quarter of this year and prices are expected to average higher than in April-June 1963. The expected reduction in slaughter stems from a 4 per cent smaller June-November 1963 pig crop (allowing for the seven-month lag between farrowing and marketing). Producers' intentions indicated 6 per cent fewer sows were to farrow in December 1963-February 1964 than a year ago. Thus, slaughter supplies will be down in the second half of 1964. *(5)*



▲ COMMERCIAL SLAUGHTER *BARROWS AND GILTS AT EIGHT MARKETS

U.S. DEPARTMENT OF AGRICULTURE NEG. ERS 2698-64 (2)

Here's How to estimate the bushels of shelled corn or small grain in a cone-shaped pile. *(6)*

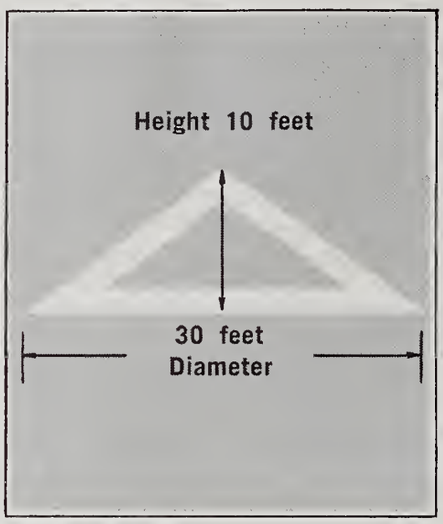
If you have a stack of wheat 10 feet high and 30 feet in diameter across the base, the solution is:

0.20944 x height x diameter x diameter = number of bushels

0.020944 x 10 x 30 x 30 = 1,885

If it's a pile of ear corn and you want to know the shelled volume, use the same equation with a factor half as large—0.10472.

0.10472 x 10 x 30 x 30 = 942.5



FARMERS WILL REAP BENEFITS FROM INCOME TAX REVISIONS

Some aspects of the 1964 income tax law are of special interest to farmers and their families.

The two-step reduction in tax rates. Formerly, the tax rates ranged from 20 to 91 per cent of taxable income. For 1964, the range is from 16 per cent in the lowest bracket to 77 per cent on taxable income of $200,000 and up for single persons and $400,000 or more for married couples filing jointly. It will be cut further (to 14 to 70 per cent) in 1965.

The average reduction in tax rates will be more than 14 per cent for all taxpayers when fully effective next year. However, the reduction for the low income group (taxable income of $1,000 for a single person or $2,000 for a married couple filing joint return) will amount to 27 per cent cut. Over two-thirds of all farm families are in this category.

The minimum standard deduction. Previously, taxpayers had the option of either itemizing personal deductions (interest, taxes, etc.) or using a standard deduction of 10 per cent of gross income (up to $1,000). As a result, the taxpayer with a small income got an even smaller deduction. Now the minimum standard deduction has been set at $300 for single taxpayers and $400 for married couples filing jointly. Families also claim an additional $100 per dependent. The maximum that can be deducted under this arrangement is $1,000. Taxpayers can still itemize deductions or take the standard deduction.

The income averaging option. Farmers' incomes often vary greatly from year to year. In the past, the income tax tended to penalize those whose income fluctuated because their returns in profitable years were taxed at a higher rate. The new provision applies to the amount received in any year that exceeds the average income of the preceding four years by more than one-third. The amount to be averaged must at least be $3,000.

Modification of the 7 per cent investment credit. In the law enacted in 1962, the purchaser of new equipment was permitted to take 7 per cent of the cost as a credit against his income tax. However, he was also required to subtract the amount of the credit from the cost of the equipment before determining his tax deductible depreciation. Under the new law, he is no longer required to subtract investment credit from cost of property. *(7)*

Australia, New Zealand and Ireland Agree to Limit Meat Exports to U.S.

Australia, New Zealand and Ireland have agreed to limit shipments of meat to the U.S. during 1964, 1965 and 1966. The agreements with New Zealand and Ireland cover all forms of beef and veal except canned, cured and cooked meats and live animals. The one with Australia adds mutton. During 1964, imports of meats covered by the agreements will be limited to about the 1962-63 average of 849 million pounds.

The agreements as signed will hold future expansion of beef imports well below recent increases. For example, Australia's exports of beef and veal to the U.S. in 1962 were up 89 per cent from 1961. In 1963, they moved up 17 per cent from 1962. They may gain 8-10 per cent in 1964. *(8)*

Prices of Inputs Needed for Farming Help Determine How Much Is Bought

Farmers keep breaking production records but they manage to operate their businesses with no increase in total inputs. Farmers do make changes in the kinds of things used for production, however. Although the use of fixed inputs such as land are relatively constant regardless of price, prices for other goods and services have a lot to do with their purchase.

For example, farm wage rates increased faster than any other input between 1950 and 1960. As a result, farm operators turned to more machinery, fertilizer and other purchased production items. While total man-hours in agriculture declined 28 per cent in 10 years, inputs of mechanical power and machinery increased 24 per cent, use of fertilizer and lime went up a whopping 74 per cent, purchased feed, seed and livestock rose 48 per cent and miscellaneous, 30 per cent. *(9)*

Better Management for Alfalfa Crop Pays Off in Sharply Increased Yields

Why be satisfied with a half load of hay when you can harvest a whole one? Farmers in northeastern Colorado generally are content with only average hay yields when they could double their crop by using the best available practices.

The specialists say in order to get good yields from alfalfa—and make money on it—farmers should prepare a good seed-bed. Use the right seeding rate with an adapted variety. Fertilize and irrigate properly. And, follow the best, timeliest harvesting methods.

Oddly enough, the cultural practice most often neglected in northeastern Colorado was proper fertilization with the phosphorous needed by alfalfa on high-lime soils. Farmers either used too much or too little—wasting their fertilizer dollars or not attaining the hay yields possible.

To illustrate the possibilities of higher yields from alfalfa, specialists conducted a four-year study on Colorado farms. Cooperating farmers planted a certified variety, used five to seven inches of water four times a year and, most important, applied phosphorous. Beginning the second year, three cuttings were harvested annually for three years.

The results pointed to average annual yields of 2.2 tons of hay per acre without fertilizer, 3.9 tons with 33 pounds of phosphorous, 5.1 tons with 132 pounds and 5.3 tons with 198 pounds.

Assuming alfalfa hay will sell for $20 per ton in the field, yields per acre were worth $44 without fertilizer and $78, $102 and $106 with fertilizer. Fertilizer applications cost $6.60, $26.40 and $39.60 per acre leaving profits from the fertilized alfalfa of $71.40 using the 33-pound rate, $76.60 with 132 pounds, $66.40 with 198 pounds. *(10)*

MOST PROFITABLE WEEKLY FEEDING SCHEDULE

Price per hundredweight for—			Least-cost ration		Milk output	Return over feed cost
Grain	Hay	Milk	Grain	Hay		
	Dollars			Pounds		Dollars
3.00	0.75	3.00	61	268	256	3.84
3.00	1.00	3.00	91	180	261	3.28
3.00	1.25	3.00	122	92	258	2.94
3.00	0.75	4.00	95	242	280	6.53
3.00	1.00	4.00	118	176	282	6.01
3.00	1.25	4.00	141	110	281	5.66
3.00	0.75	5.00	115	226	291	9.39
3.00	1.00	5.00	133	173	293	8.89
3.00	1.25	5.00	152	120	292	8.53

CALCULATING COW MIXES FEED, MILK PRICES FOR MORE PROFIT

There's a calculating cow out at Iowa State. It's a high-powered computer that takes hay and grain prices and rations and milk production, along with other production factors, and turns them into a table of the most profitable feeding schedules at varying milk prices.

Economists at Iowa State, in cooperation with specialists in ERS, have been using the computer to set up some possibilities for a typical dairy herd.

When milk prices were set at low levels, the computer indicated that some profit could still be made. For instance, feed prices were set at $3 per cwt. for grain and $1.25 for hay. Then the milk price was set at only $3 per cwt. The computer said to feed the cow 122 pounds of grain and 92 pounds of hay during a week and she would give around 258 pounds of milk. The return over feed cost would be $2.94. If the milk price were raised to $5, the computer said to feed the cow 30 pounds more grain and 28 pounds more hay, and she would produce 292 pounds of milk, earning a return of $8.53 over feed cost.

As hay and grain prices were varied, the computer selected a higher proportion of the feed that became relatively cheaper.

In addition to level of hay and grain feeding, the economic effects of weather (temperature) and several cow characteristics were analyzed. Setting the cow characteristics at various levels, the computer "imitated" cows of different body weight, age, maturity, inbreeding and stage of lactation. Lowest cost levels of feeding and most profitable levels of milk production were then computed for each "imitation cow" under various prices for hay, grain and milk. Most profitable feeding schedules were also computed for different seasons, setting the temperature at high and low levels.

These figures resulted from two drylot experiments conducted over a six-year period with a total of 72 cows selected from the Iowa State University dairy farm. Each experiment employed a similar design. Rations and levels of feeding were carefully controlled. Feed consumption and milk production were recorded daily over the experimental periods. The results are tentative because only a limited number of feeding situations were examined, but they demonstrate the usefulness of the analysis. *(11)*

The Time Farmer Spends With a Pencil Can Save Him Money During Harvest

A farmer needs to do some hard and fast figuring to keep up with his machinery expenses. Take the cost of owning a cotton-picker. Suppose a farmer in the Mississippi Delta has 100 acres of cotton from which he can normally expect to harvest 750 pounds of lint an acre. The price of a one-row mechanical picker is $12,000; it has a life expectancy of 12 years and its trade-in value is $2,000.

The annual straight-line depreciation would be $833. Interest on the average investment at 6 per cent comes to $360 each year. Another $200 would be needed each season for supporting equipment (trailers and power). These items add up to a total annual fixed cost of $1,393.

Now for operating costs. Going over the 100 acres twice comes to $14 per acre. The annual fixed costs are $14 per acre. Thus, total machine costs amount to $28.

In addition to machine costs, loss-in-grade of $11 per acre and field losses amounting to $14 an acre are chargeable to mechanical harvesting. The result is a grand total of $53 an acre or $35 per bale for harvesting 100 acres with a yield of 750 pounds of lint.

To harvest this cotton by hand, at $3 per hundredweight of seed cotton, would cost roughly $48 per bale, including some overhead costs. The net cost advantage in favor of machine harvesting is $13 a bale.

However, all this figuring assumes the farmer's supply of capital is unlimited. If he does lack ready cash, he must consider whether the investment in the machine would yield him higher returns if he put the money elsewhere. Purchasing land or fertilizer might give him a bigger net income in the long run.

One alternative to buying a machine when capital is limited is paying for custom picking. Suppose the charge is $37 an acre for custom work. Subtracting the picker costs of $14 per acre leaves a net custom charge of $23. Dividing this figure into the annual costs of owning a machine ($1,393) rounds off to 60 acres. This is the break-even point with a yield of 750 pounds of lint. With less than 60 acres, it costs less to custom harvest. With more than 60 acres, owning a machine costs less.

Using the method figuring costs and a higher or lower yield of lint would result in a somewhat different break-even acreage. However, there's one factor that can't be covered in dollars and cents. It is the risk that the custom operator might not always be available when the cotton is ready for harvest.

Other possibilities for the farmer short on capital include using his machine to do custom work for others, renting a picker, exchanging the use of equipment with neighbors, and joint ownership of machinery. *(13)*

Study of Tractor Costs in Nebraska Reveals Big Machines Cheaper to Use

There's more to buying a tractor than the purchase price. The size in terms of drawbar horsepower makes a big difference in both the usefulness and cost of operating the machine.

To get more information on tractor costs and the sizes in use, specialists conducted a survey of 374 farm operators in Nebraska during 1961.

At the time of the study, 20 per cent of the Nebraska farmers owned one tractor, 50 per cent had two, 23 per cent owned three and 7 per cent had four or more.

Thirty per cent of the tractors in the study had 20 horsepower or less, 33 per cent ranged from 20 to 29 h.p., 24 per cent had 30 to 39 h.p., 10 per cent had 40 to 49 h.p., and the remaining 3 per cent rated 50 or more h.p.

Farmers reported they had paid an average of $2,163 for small tractors (20 to 29 h.p.), $3,204 for medium ones (30 to 39 h.p.) and $4,493 for large tractors (40 to 49 h.p.). The small tractors were kept an average of 16 years from purchase to trade-in compared to 13 years for the medium and large size equipment.

To figure the fixed costs of tractor ownership, the researchers computed depreciation by subtracting the trade-in value from the purchase price and dividing the remainder by the years of expected use. Interest on the investment was calculated at 5 per cent, taxes were set at current state personal property rates and an average charge was added for insurance. With a higher purchase price and shorter life span, the bigger tractors resulted in higher annual fixed costs.

Variable costs included fuel, oil and grease and the operator's labor which was assumed to be worth $1.25 an hour. These costs had the most influence on the total operating expense because they depend on how much the tractor is used.

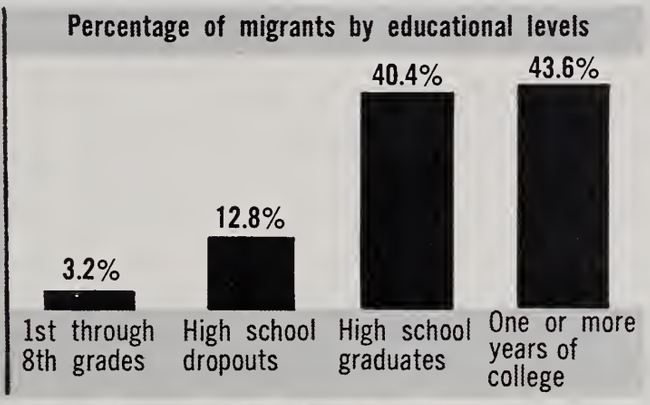
Specialists found the small tractors cost approximately $1.83 an hour (total operating costs) when used 200 hours a year. When used 1,000 hours annually, the cost per hour dropped to 78 cents.

Expenses also declined as use increased for the medium and large tractors. However, hourly costs were the same for these two sizes because the large tractors burned the cheaper diesel fuel.

The large tractors had the biggest cost advantage because they could pull larger machinery that covers more arcres per hour. For example, the combined cost per acre of the big tractor and a four-row corn picker is roughly half the expense of operating a two-row machine pulled by a smaller tractor. *(14)*

THE ONES WHO LEFT HOME

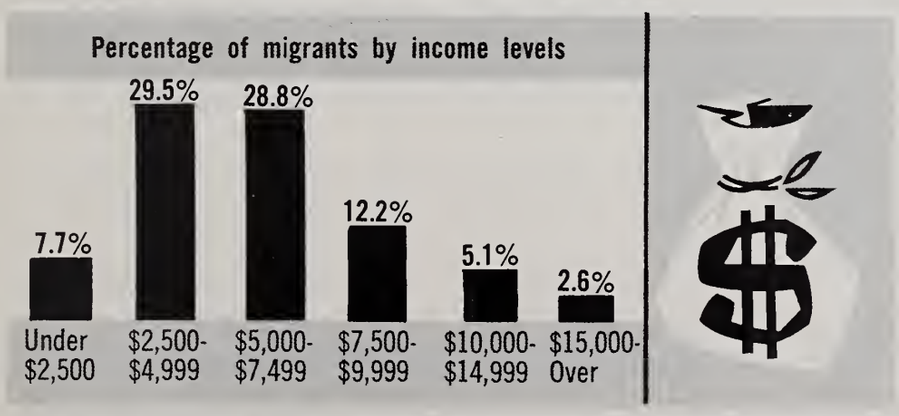
In increasing numbers, yaung men and wamen from the farm laak ta the city far their livelihaad. Haw well are they prepared far the future, and haw well da they fare? A 1959 study in Calarada gives some indicatian of the success af the farm-to-city migrant. The study included 62 men and 94 women.



THEIR EDUCATION: Mast af the men and wamen were high school graduates under 25 years ald. Better than twa aut af five had at least a year af college after moving from Sedgwick Caunty, making them better educated than the natianal average.

Type of work	Men	Women	Total
		Per cent	
Craftsmen	35.5	1.1	14.8
Professional	17.8	12.7	14.8
Managers and officials	8.1	0.0	3.2
Operatives	8.1	1.1	3.8
Sales	4.8	2.1	3.2
Farmers	3.2	0.0	1.3
Clerical	3.2	18.1	12.2
Service workers	3.2	3.2	3.2
Laborers (not farm)	1.6	2.1	1.9
Students (regular)	1.6	1.1	1.3
Housewives	0.0	57.4	34.6
No answer	8.1	1.1	3.8
Does not apply	4.8	0.0	1.9

THEIR JOBS: One aut af every three of the men were warking as craftsmen, such as carpenters and mechanics. Two aut af every three wamen were hausewives.



THEIR INCOMES: Unlike many migrants, the group from Sedgwick Caunty were fairly well aff, considering they were generally under 25 years of age. Part of their success was the result af caming fram an ecanomically saund farming area and having a relatively adequate educatianal background.

Farm parents in Sedgwick County, Colorado, like parents anywhere, are anxious for their children when they leave home. But the Sedgwick County families have less reason than many others for concern.

For one thing the area is prosperous, as farm communities go, and the families have seen to it that the children got a better than average education, according to a survey of the area.

Like many other largely rural areas, Sedgwick County has been losing population steadily since the '30s when the population reached its peak of around 5,500 people. Since then it has dropped to around 4,000.

The young men and women who migrated to the city between 1950 and 1960 had about a year more formal education than those who remained at home. But whether they stayed at home or moved to the city, the youth of the area were at least as well off as the national average in terms of years of schooling.

The main reason for kids leaving home is to get a job. About the only work in the county other than farming is provided by the local beet sugar factory, and even that is seasonal.

Measured by income, at least, the migrants were better off in town. In 1960, the median net family income for the migrants was $5,500, well over the $4,900 average for Sedgwick County as a whole. And though the migrants were still earning a couple of hundred dollars less than the state average, they were pretty well off considering their youth.

Money, however, wasn't the only reason the young men and women left home. One out of four migrants felt that country life wasn't interesting enough.

In a backward look at their preparation for city life, one out of four migrants thought the school system could have been improved by adopting a broader curriculum. *(15)*

Put the Farm Partnership in Writing To Spell Out Duties and Obligations

Draw up partnership papers? Why bother? As far as the law is concerned two men who are known to be farming together already form a partnership, subject to all the legal responsibilities, whether or not they have ever bothered with a written agreement.

Even so, there are good reasons for spelling out the working arrangements of a partnership in a formal contract, according to a guide prepared by the University of Iowa in cooperation with the Economic Research Service.

In the first place, the partnership contract clarifies the responsibilities of each partner before misunderstandings have a chance to occur. The formal papers also provide an outline of the way the business is intended to function. Also the ritual of signing partnership papers helps to put the operation on a businesslike basis. Finally, the papers are strong evidence of the intention to form a partnership, thus reminding the members of the legal responsibilities they face.

For example, the partnership papers provide a record of the cash contribution of each partner or the amount of land or livestock being put into the business.

The papers also spell out the members' contributions in terms of labor and management and what salary, if any, they will receive.

And when it comes to the payoff, partnership papers should specify the way profits or losses will be shared—equally by all members or in proportion to the investment.

It's a help, too, if the partners decide in writing just who is going to keep the books for the business and who has the power to sign checks.

Other provisions may be desired by the partners covering, for example, arbitration, vacations, new partners, or expense accounts, to mention a few.

The partnership papers should also spell out the way the business will be dissolved when the time comes, answering such questions as how to buy out one partner's share or what value to put on a partner's share. *(16)*

Operators Should Weigh Pros and Cons Before They Decide to Incorporate

Usually, the farmer with large holdings involving high risks gains more by incorporating his farm than the small farmer. Under certain conditions, however, the small farmer can benefit by incorporating.

Some of the advantages of incorporation are:

—Shareholders are not personally liable for the obligations of the corporation beyond the value of their stock investment.

—Corporations may be used to help keep the farm in the family by giving or selling stock to children before death, and by permitting stock to pass to on-farm and off-farm heirs at death.

—Corporations have an independent existence—they need not dissolve at the death of an owner.

Some of the disadvantages of incorporating are:

—Corporations cannot get loans from the Farmers Home Administration.

—Limitations are placed on loans from Federal Land Banks.

—Corporations require slightly more paperwork, records and reports than an unincorporated business.

—Costs of forming a corporation may be substantial.

—Social security tax may be greater after incorporation.

—Incorporation may result in a larger income tax bill.

Property taxes may be higher after incorporation due to loss of exemptions or credits available only to individuals. *(17)*

Arrange Farm Transfer Plans Today And Avoid Legal Problems Tomorrow

Farm parents can do themselves and their children a favor by starting early to plan for the transfer of their estates. To avoid serious problems about what happens to the farm when the owner dies, it's a good idea to get the whole family together and carefully map out a long-term transfer plan.

Some objectives of a good farm transfer plan are:

—to provide enough income for the parents,

—to treat the children fairly,

—to keep the farm within the family,

—to tell the heirs what to expect so they can plan their own lives, and

—to reduce death taxes and estate settlement costs.

The farm owner may want to make a will, take out life insurance, incorporate or perhaps set up a trust. In some cases, it might not be advisable to keep the farm in the family. Each situation is unique and deserves individual attention. Generally, legal advice is needed to work out the details. *(18)*

Owners Reduce Risk of Lawsuits By Compensation, Insurance, Incorporation

Agriculture ranks third among all industries for on-the-job fatalities. Only construction and mining exceed agriculture's death rate. It's more than four times safer to work in a manufacturing plant than on a farm.

A farm hand's rights and legal remedies for injury vary depending on individual state law. Most states say the farmer is liable according to the degree of negligence. The farmer must be proven negligent before the injured worker wins his case.

A farmer cannot guarantee the safety of his hired men, but he

can and legally must take steps to reduce the possibilities of injury. Under the law, the farmer must furnish his employees with safe tools and provide a safe work place. He also must hire competent fellow workers. The farmer must also warn the hands of hidden dangers they would not be apt to discover. Finally, a farmer must make reasonable work rules for his employees' safety.

Even if the injured worker can prove his boss didn't meet all his responsibilities, there is no guarantee that he can collect.

The law often gives the farmer three defenses to counter an injured worker's claim:

—An employee assumes the ordinary hazards involved in the job. Claims based on these ordinary risks aren't enforced.

—The farmer is generally not liable if one worker is injured by the negligence of another worker.

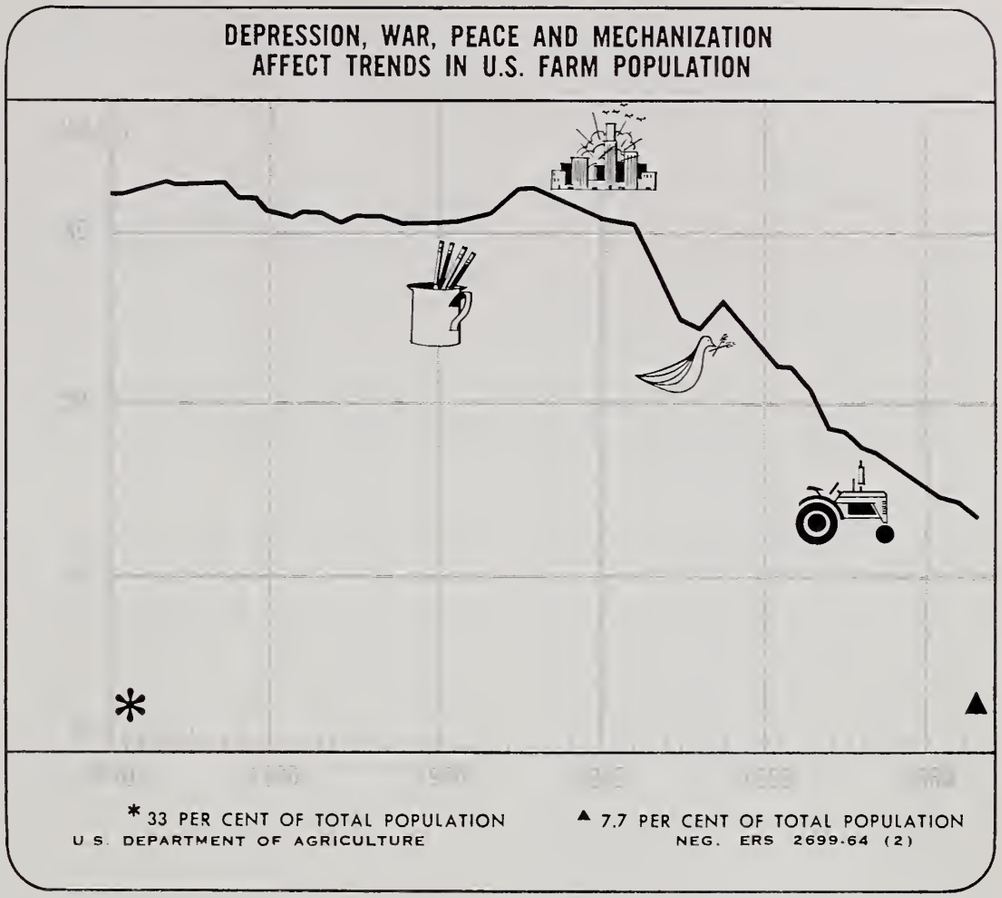
—A worker injured by his own negligence may be barred from recovery from the farmer.

Because of the difficulties the worker faces in recovering for on-the-job injuries, most nonagricultural industries long ago turned to *workmen's compensation* for injured workers. With such protection, employees get specified amounts for on-the-job injuries. They need not prove the employer was negligent. Nor can the employer put up his usual defenses.

In exchange for compensation rights, the hired man gives up the right to sue the employer for damages. Many states now permit farmers to come under the state workmen's compensation law.

Besides the compensation law, farmers can lessen the impact of damage suits by getting liability insurance or by incorporating the farm business. Or a farmer can use all three safeguards.

With greater use of power equipment, farmers are apt to need increased protection. *(19)*



U.S. Farm Population Has Dropped 59% Since World War I

Just before the First World War, the U.S. farm population reached its highest peak at 32.5 million people. Since then, the farm population has dwindled by 59 per cent. There were only 13.4 million people living on farms in 1963. Today, only 7 per cent of the population lives on farms. But the decline in farm population has not been continuous. Farm population between 1917 and 1927 dropped by some 2 million.

Toward the end of the 1920s, the decline slowed. Then, when the depression struck the nation, the number of farm residents climbed back up to 32.4 million, recovering nearly all of the loss since 1916.

But during the rest of the '30s, the farm population began to drop again, especially in the Dust Bowl states.

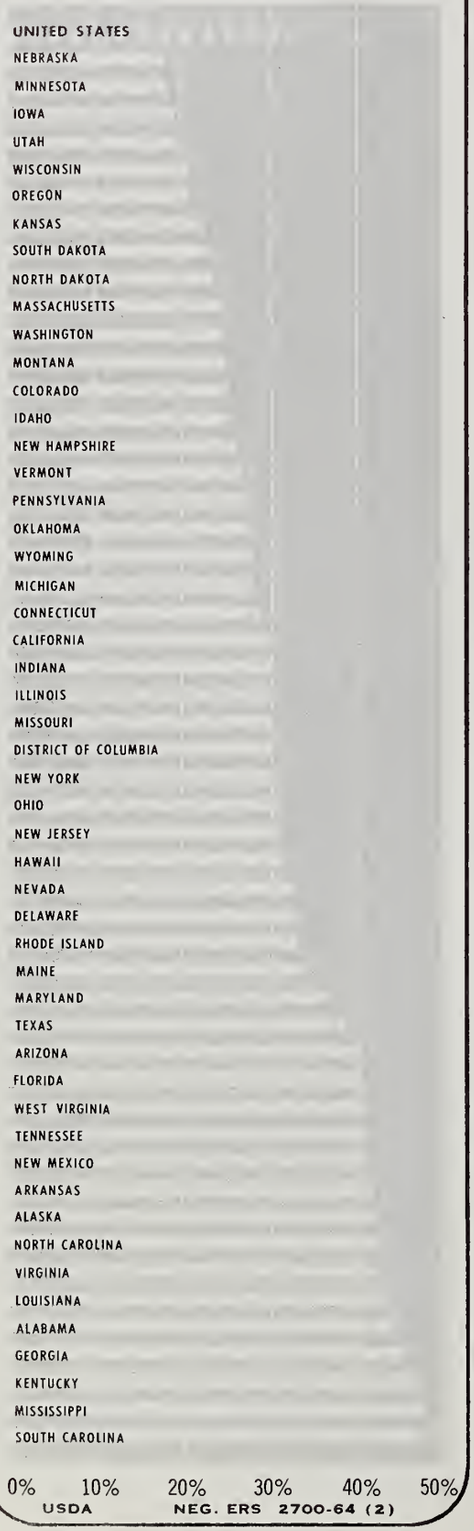
The fall of France in 1940 signaled the start of a gigantic defense effort in this country, an effort that required millions of workers and brought a sharp drop in farm population. The same year, the nation began the draft of thousands of men. Between 1940 and 1945, the farm population dropped by 6.1 million, or by 20 per cent.

After the war, the farm population increased for a couple of years as veterans returned and defense factories closed down—but it was only a pause in the downward trend. New jobs in industry, mechanization in agriculture and compulsory military training all helped to pull more people off the farm.

Since 1940, the farm population has declined fastest in the South and Northeast. However, with the exception of Alaska, all states have experienced some decline in farm population.

North Carolina has the largest farm population — 950,000 in 1960. *(20)*

THE LOSERS: Without a high school education today it's almost impossible to get a decent job, as everyone knows. Everyone, that is, except the boys and girls who give up before they get their diplomas. In 1960, a shade over 6 million of the 14- to 24-year-old group had dropped out of high school. It was a slight improvement over the nearly 8 million dropouts in 1950. The chart gives the state situation for 19-year-olds. *(21)*



Operators of Vacation Farms in Ohio Have Useful Experience to Draw On

Some of Ohio's farm families are beginning to have a fairly specific idea of the problems involved in offering vacation facilities to paying guests.

With two year's experience in the Ohio Farm Vacation Association already behind them, participants have a better idea of what it costs in time and money to turn farm life into a profitable recreation venture.

To accommodate children, for instance, one family built a two-room 10-bunk cottage, complete with bath. Another family completely remodeled their home to make it more attractive to their customers. One of the new features of the living room is a picture window installed to provide a view of the pond.

Surveys showed that most guests would not be satisfied simply with room and board. Generally they felt it took recreation activities provided by ponds for fishing and swimming, wooded spots for picnics, trails for horseback riding, or other facilities to round out a farm vacation experience.

But whatever the farmers offer in the way of added pastimes, the main attraction of a farm vacation remains the peace and quiet of the country and the chance to taste day-to-day life on a farm.

Such tastes can lead to complications. Often the guests were eager to help with the chores, or insisted on currying a horse, milking a cow or trying their hand at running a tractor. It never seemed to occur to them that farm animals and machinery could be dangerous. Many of the Ohio farmers found it necessary to be tactful but firm in laying down ground rules for using the barn and field. They also decided it wasn't a bad idea to carry extra liability insurance.

In the house, too, the guests created problems that weren't always completely anticipated. The visitors mean extra cooking and dishwashing, and generally less privacy for the family, too. With the farm family and the guests living in fairly close quarters, the occasional grouch was a special hazard of the vacation business.

But nevertheless, city guests add up to extra money for the farm family. For a week's room and board, adult guests in Ohio paid between $35 and $50. The rate for children ranged from $25 to $30. A few members of the Ohio association grossed as much as $2,000 last year from their vacation sideline; however, most farmers took in much less than this, and some had no guest-income. And the farmers weren't the only ones profiting from the vacation plan.

To help promote vacations on local farms, the merchants printed and distributed maps of the area, used restaurant place mats to describe the farms and scenic attractions, and just generally talked up the enterprise. *(22)*

Farmers May Bolster Their Incomes By Developing Recreation Projects

More people. More money. More leisure. Longer vacations.

But no noticeable increase in the number or size of the national forests and parks where Americans can escape crowded city life.

Visits to the national and state parks and the public forests, for example, have increased nearly two and a half times in the past 10 years. By the mid-'70s, the use of these public lands is expected to nearly double. And by the year 2000, the use of public recreation areas should be nearly triple today's level.

Fortunately, the nation's farmers can help relieve the pressure on the wide open spaces and give their own incomes a boost at the

same time.

Three-fourths of the nation's land is privately owned.

By opening up some of his space for the city dweller, the farmer can help solve the problem of how to make a living from land and water resources no longer needed for farming.

Today, farmers and ranchers have turned more than a million ponds and lakes into additional income, by opening them to fishermen and hunters.

Small watershed projects are producing an unforeseen harvest of water-based recreation on small lakes created by floodwater dams. In Mississippi's 91 stocked reservoirs, for instance, nearly 35,000 visitors were able to enjoy a day's fishing during 1962.

Amendments to the Watershed Protection and Flood Prevention Act now authorize recreation as a major project and provide for a cost-sharing plan. The 1962 Act also authorizes the Department of Agriculture to make loans to farmers and rural groups for developing income-producing recreation enterprises. *(23)*

USDA, Other Government Departments May Study River Basin Development

Four departments of the federal government are considering a river basin investigation program extending to 1970 that would embrace the entire land mass in the United States, excluding the Tennessee Valley.

The departments are Interior, Army, Agriculture, and Health, Education and Welfare. The program divides the country into 16 major resource regions and would bring the departments together in the job of collecting and analyzing necessary information.

The main objectives of the program are to provide technical and factual guides to form national and state water policy and to provide the necessary physical and economic data that would help states and regions form balanced systems of subbasin development.

Researchers would concentrate on economic growth, needs for water and related land, future supplies and development potentials. Also, the study would cover the problems of flood, drought and the need for irrigation. *(24)*

New Industrial Plant in Rural Iowa Creates More Jobs, Expands Economy

When industry moves to town, it means more jobs and more money along Main Street. But what happens to the farms in the community when their operators take work in the new industry?

To find out, Iowa State University in cooperation with the Economic Research Service recently conducted a survey to measure the impact of a new industry on rural communities.

In the early 1950s, an engine manufacturer from out of state established a plant in Maquoketa, Iowa. In 1957, about one out of every 25 farmers in the community worked in the factory. The additional factory jobs prompted a substantial increase in part-time farming in the area. Eighty-eight farmers who took factory jobs, for example, continued farming.

About 23 per cent of those who took jobs but continued farming spent less than 40 per cent of their work time at the plant. They worked about 1,000 hours at the plant in 1957.

While two-thirds of the operators had to cut down on the time they devoted to farming, the remaining third managed to keep up their former agricultural pace by working evenings and weekends. A lot of the new part-time farmers found themselves hiring workers or relying more on family labor.

Most of the increased family labor, however, was provided by young sons and wives whose accomplishments per hour were generally not as high as those of the former full-time operators. About four out of 10 housewives, for example, spent more time on farmwork after their husbands took factory jobs. Only 28 per cent of the farmers used less family labor on the farm.

Almost 25 per cent of the farmers who took jobs in the plant used more labor-saving machinery as a result of their nonfarm employment, and more than 20 per cent used other labor saving practices. Thus, despite their full-time factory jobs, nearly two-thirds of the farmers maintained the previous level of farm output, only a third reported a decline. Despite the increased income from factory work, more than three-fourths of the group reported no noticeable drop in farm income.

Many new part-time farmers were able to maintain farm output and income because, before the factory was built, they were underemployed and had a lot of leisure time. Almost two-thirds of the farmers reported no change in output due to plant jobs.

Many of these operators were on farms with relatively small amounts of land and capital and all available labor couldn't be used productively. The factory pulled in more small farm operators than those running larger, more profitable farms.*(25)*

$1 Billion Runoff

Eroded cropland, rangeland and woodland, along with the resulting problems of sedimentation, cost the nation nearly $1 billion a year. The potential loss from floods runs to another $955 million, with half the loss sustained by agriculture.

Over half the nation's 311 million acres of harvested cropland have a major problem of water erosion. Another 32 million acres of range and pasture need treatment for erosion. *(26)*

FRUIT FIRMS CALIFORNIA STYLE

Apples, apricots, sweet cherries, grapes, nectarines, freestone peaches, pears and plums—a large share of this basket of fresh deciduous fruits comes from California.

To get an idea of how the California deciduous fruit industry functions, ERS researchers recently undertook a detailed study of the industry in cooperation with the California agricultural experiment station. The research covered over 70 per cent of all firms in the trade.

The firms covered in the study were classed either as first handlers who operate packing and/or shipping facilities in production districts or as sales agencies whose major function is selling fresh fruit for the handlers. First handlers include growers-shippers, cooperatives and commercial packers.

The growers—either a grower-shipper or a grower consigning his fruit to a first handler—held title to about 92 per cent of the fruit offered for sale during 1960. The other 8 per cent was purchased by first handlers before packing and shipping.

Concentration was not the rule for either the first handlers or the sales agencies. Of the 238 first handler firms represented, the four largest controlled only 12 per cent of the total volume for the group. The five largest agencies accounted for only 27 per cent of the state's total volume.

The size of the California firms varies widely. First handlers estimated their 1960 replacement costs from as low as $115,000 for a grape packinghouse with no cold storage or precooling facilities to as high as $2,250,000 for a large pear packinghouse with a cold storage plant capable of handling 500 carloads.

To the investment in plant and equipment must be added the initial operating capital. If a new firm doesn't grow most of the fruit it packs, getting supplies may mean buying the fruit outright or financing the grower. Both possibilities increase operating capital needs.

Obviously, the scale of operation for firms had a great deal to do with their costs. An earlier study by the California agricultural experiment station indicated that most of the economies of scale were achieved with capacities of 30,000 pounds of packed fruit per hour in plum packinghouses (four-basket crates), 25,000 pounds per hour in pear packinghouses (standard boxes) and 15,000 pounds per hour in grape packinghouses (lugs).

The average capacity (output rate) for packinghouses in the study was 27,600 pounds per hour for pears and 16,100 pounds for grapes. However, output per hour for plums was only 10,600 pounds, far under the optimum rate.

Length of season also has a lot to do with costs per unit. Fixed expenses must be covered during the relatively short periods the packinghouse is in operation. The first handlers operated an average of only 79 days during 1959.

Cold storage facilities are subject to seasonal use, too. Survey firms reported their cold storage plants were used at more than 50 per cent of capacity an average of only four months a year.

Grocery chains and retail groups buying direct make up the largest single outlet for the California firms. In 1960, 48 per cent of the tonnage handled by survey firms was sold to chains and retail groups. The gain in sales to this outlet has reduced the share consigned to auctions or wholesale fruit and vegetable markets. Tonnage sold through auctions dropped a third from 1950 to 1959.

In selling their fruit, California firms often use brand names and special methods of packing, handling and shipping. Ads with the brands and services offered are carried in the wholesale trade publications. *(27)*

SRS Cold Storage Report Celebrates Fiftieth Year of Continuous Service

Fifty candles blaze on the *Cold Storage Report's* anniversary cake this year.

When the *Report* first rolled off the press in 1914, about 200 warehouse operators had contributed data on the only commodity surveyed—apples. In 1964, more than 3,000 cold storage plants will be sending in monthly reports on 83 commodities. Refrigerated storage capacity in the U.S. recently exceeded 1 billion cubic feet, more than double the capacity in 1921.

The report, published monthly by USDA's Statistical Reporting Service, lists stocks on hand and space available in public refrigerated storage plants. It provides growers, shippers, processors, distributors — in fact, almost everyone from the producer association to the local grocer—with up-to-date market information for the perishable food and beverage trade. *(28)*

Long-Distance Hauling of Milk Declines As Local Producers Increase Output

Milk doesn't travel as far these days—and as a result, long-distance milk haulers are finding fewer takers for their services.

The milk hauling business came into being because several areas in the U.S. didn't produce enough to keep up with local needs for fluid milk. But, milk deficit areas are disappearing as local producers increase output.

To get a clearer picture of developments in long-distance milk hauling, specialists conducted a survey of 400 milk processing plants in 1960. Plant managers were asked where, when and how much of their volume was shipped out of the area. From this information, the researchers were able to select nine firms in the milk hauling business for further study during the period from September 1960 to August 1961. Several firms were dairy cooperatives.

Iowa, California, Virginia, Wisconsin and Indiana were the leading states where bulk milk shipments originated. The most important states receiving shipments were California (largely intrastate), Texas, Missouri, Virginia and Ohio.

For the purpose of the study long distance hauls were over 200 miles. Regular shipments within New York and Chicago order markets were excluded.

Most bulk milk shipments were made on a regular basis—only 9 per cent of total volume shipped during the 12-month survey was for one-time needs. However, quantities shipped varied considerably from month to month. Shipments were heaviest during fall and winter when production is normally low.

Milk haulers reported owning from four to 55 trucks—the median number was 20. Tank capacity ranged from 3,800 to 5,700 gallons but nearly half of the tankers held 5,000 gallons or more.

The average one-way distance for shipments was slightly less than 800 miles. The weighted average charge for hauling was roughly 60 cents per loaded mile. Actual charges varied from 50 to 83 cents.

Firms with large-capacity trucks generally charged more per loaded mile for their services. Tankers holding up to 5,100 gallons received an average of 67.2 cents per loaded mile compared with 58.6 cents for shipments in 4,000-gallon tankers. The difference was due to the higher fixed and operating costs of the larger trucks. However, shipments in the bigger tankers cost less per hundredweight, particularly for longer hauls.

Less than 10 per cent of all trips during the 1960-61 survey included a backhaul. When a return load was available, rates were 15 to 20 per cent lower.

Part of the difficulty in obtaining backhauls is due to Interstate Commerce Commission regulations. Except for safety requirements, transportation of fluid milk is exempt from ICC rules. However, most of the products tankers could carry on a return haul do come under ICC regulations. *(29)*

Basis for Purchasing Milk May Shift As Use of Butter and Cream Declines

Butter and cream have long been the glamour products of milk. Dealers have paid premium prices for milk with a high butterfat content, attaching little value to the nonfat and protein components.

But nowadays butter is running into stiff competition from vegetable margarines. Cream consumption is declining too. Instead of ice cream, weight-watchers are eating more ice milk and imitation ice creams made from vegetable fats.

At the same time there's an increasing demand for nonfat solids in such processed items as skim drinks, fortified low-fat milk, cottage cheese and nonfat dry milk for household use.

So far, however, farmers usually sell their whole milk at a hundredweight price, with a price differential for butterfat content above or below a standard. This results in a hundredweight price for skim milk regardless of its solids content. And even these prices vary considerably from city to city.

The dairy industry is becoming increasingly aware of the need for component pricing. What's been missing is a rapid, simple test to determine the nonfat and protein content of milk. Such tests now appear ready for industry use. In fact, a lactometer is already being used successfully in California.

Nonfat solids account for over

30 per cent of the value of milk for manufacturing. But the nonfat content doesn't vary nearly as much as butterfat from breed to breed, or even among cows of the same breed. This small variation, plus the fact that nonfat dry milk is still a low-price item, means that for manufacturing uses milk with a high solids content is worth only about 10 cents per hundredweight more than low-solids milk.

So even with component pricing and an adequate test to determine the nonfat content, producers of milk for manufacturing purposes won't get much more for their milk than they do now until new uses create greater demand for nonfat dry milk. *(30)*

Packing Center Models Reveal Costs For Manufacturers of Formula Feeds

How much does it cost a manufacturer to package mixed feed? The answer depends a good deal on the size and type of operation.

To illustrate the difference in costs due to plant size, marketing specialists set up two model packing centers with capacities of 65 and 160 tons of feed per eight-hour day. The models were developed from records of feed manufacturers in 35 states.

For the smaller model, packing costs were around 39 cents per ton of feed when the plant operated eight hours a day, 260 days a year. If the plant operated 16 hours a day, packing costs per ton would drop to about 37 cents.

Equipment for the 65-ton model packing center cost about $12,900. Labor requirements were one man per eight-hour shift. Annual operating costs ran $6,650 and annual output was about 21,000 tons on the basis of an eight-hour shift. Output was assumed doubled when two shifts were used.

In the 160-ton model, packing costs were about 30 cents a ton on an eight-hour shift and 27 cents for a 16-hour day. The equipment cost was $29,220. Two men were needed to operate the center for an eight-hour period. Total annual operating costs were $12,390 and output was 41,600 tons on an eight-hour shift for 260 days.

In both models, the mixed feed packed was about a third mash, a third pellets and crumbles and a third dairy. Half of total volume packed was in 50-pound paper bags and half in 100-pound bags.

Packing equipment has considerable influence on the total cost per ton for a manufacturer. In both models, it was assumed that 80 per cent of total plant output was packaged. When the amount packed was reduced to 30 per cent of plant output, the cost per ton when operating one shift was increased about a third. The cost per ton when operating two shifts rose 20 per cent. *(31)*

POLYURETHANES ARE NEW NONFOOD USE FOR SUGAR, STARCH

How do you measure a market for foam? How do you calculate the opportunity for a raw material used in making a foam? These are two of the questions ERS market researchers faced when they looked into the possibilities for fats and oils, and for sugars and starches, as ingredients in polyurethane foams.

Polyurethanes are new commercial plastics made from petrochemical and agricultural raw materials. Polyether urethanes are made with a sugar or a starch derivative while polyester urethanes have fatty acid bases.

Because they cost less to make, polyether urethanes made from sugar or starch take a large share of the flexible and rigid foam markets. The polyester type derived from tall oil, linseed oil and castor oil goes mostly into coatings and elastic plastics.

In insulation, polyurethane foams compete with a vacuum in performance, and with other materials, such as cork, glass fiber and other kinds of foamed plastics, in cost per cubic foot. Frozen food trucks and boats and submarines become more efficient because of the bouyancy, saving in weight, and high insulating efficiency (low k factor) of structurally bonded or foamed-in-place polyurethane insulation.

In cushioning, the material that gives just the right resistance to compression has the most market appeal. Because polyurethane foams can be formulated and foamed in different densities and degrees of bounciness, they are strong competitors with various animal and vegetable fibers in furniture, auto and other upholstery cushioning.

With a technique called flame-bonding, a layer of flexible lightweight foam can be joined to a woven fabric. As a result, summer fabrics are suitable for winter thermal wear.

Because of the new properties polyurethane products can offer, they have been and will continue to be tried in a host of ways. However, production hasn't expanded as rapidly as expected because the high-priced petrochemicals in polyurethanes make them more expensive than their competitors. Low-cost raw materials and more efficient methods of making and applying foams should result in a larger market for these products. Because of the cost situation, the sugar and starch derivatives are more attractive than the higher priced fats and oils.

As the problems are solved, use of polyurethane foams is expected to almost double between 1962 and 1965. With market growth as predicted, by 1965 as much as 16 million pounds of sugar or 21 million pounds of starch could be used in manufacturing rigid foams. *(32)*

PEOPLE BUY MORE IMPORTED GOODS AS INCOME GROWS

Region	Income per person	All imports per person from:		Farm imports per person from:		
		World	U.S.	World	U.S. total	U.S. commercial
	Dollars					
Developed:	**656**	**125.89**	**22.10**	**48.06**	**5.76**	**4.96**
Western Europe:						
European Economic Community [1]	783	148.61	17.02	57.89	5.97	5.41
European Free Trade Area [2]	973	219.85	21.02	87.63	7.57	6.94
Other [3]	260	50.33	6.15	10.91	2.81	.45
Canada	1,589	300.28	207.10	140.11	23.21	23.13
Japan	315	36.45	11.99	16.34	4.40	4.19
Australia, New Zealand Republic of South Africa	723	146.04	22.84	46.80	1.92	1.82
Less Developed:	**110**	**21.47**	**4.93**	**5.08**	**1.13**	**.46**
Africa	107	31.46	2.99	6.11	.67	.16
Asia	110	14.81	2.60	2.93	.95	.20
Latin America	282	37.25	16.77	6.37	2.39	1.93

[1] Belgium, Luxembourg, France, Italy, West Germany and the Netherlands. [2] United Kingdom, Denmark, Norway, Sweden, Austria, Portugal and Switzerland. [3] Finland, Greece, Iceland, Ireland, Spain, Turkey and Yugoslavia.

WORLD TRADE: THE INCOME EQUATION

If the world should succeed in raising income per person 3 per cent a year, U.S. farm exports would be almost double the 1959-60 level by 1980.

This assumption is based on a new ERS study of the relationship between personal income and trade in nine major groups of nations (see table).

Growing income per person is the single most important factor in a country's ability to buy more food, as well as other consumer and industrial goods, from exporting nations, including the United States.

But to give people more income a country has to have a growing economy that can support more jobs and higher wages. And for most nations this requires a gradual shift from an agricultural to an industrial base.

The study points out that many 19th century economists believed countries tended to be less dependent on foreign trade as they climbed the economic ladder.

The U.S. experience alone has more or less discounted this theory. Except for 1920-40, the growth rate of U.S. exports since 1879 has kept pace with the growth rate in production.

World trade figures show that in the last two decades imports of agricultural and other goods have shot up fastest in countries with the most rapid rate of industrial and general economic growth.

Based on averages for 1959-60, the study suggests that if the nine major groups of countries managed to up income per person 10 per cent they would increase imports a bit more—10.6 per cent.

In other words, world trade expands slightly more than world income.

Moreover, with a 10 per cent increase in income, the nine groups considered together would be expected to import 14 per cent more agricultural products.

In other words, world trade in farm commodities rises more rapidly with increases in income than total trade, which includes industrial goods.

Finally, under the stated conditions, U.S. commercial exports of farm products, those sold for dollars, go up fastest of all—16.5 per cent with a 10 per cent increase in a country's income per person.

Of course, these relationships are based only on 1959-60 averages, one point in time. And just as a trackman may run a race unevenly, so trade may grow unevenly. Using other years as a base would undoubtedly yield somewhat different ratios. Nevertheless, the trend would be the same.

What comes to the fore in this analysis is the fact that the United States has a stake in the economic success of other nations. We are the world's biggest trading country. And our own economic growth is accelerated by new and growing markets abroad. *(33)*

Famine Is No Longer a Threat in UAR Thanks Partly to Aid from P. L. 480

"Lunch was black bread and an onion."

This was the way President Nasser of the United Arab Republic (Egypt) remembered the noon hour among workers he visited in a remote village back in 1952.

Recalling the incident in a speech last year, the President said that his country has only partly succeeded in getting rid of hunger in the decade since.

But the threat of famine has been averted. Today the average Egyptian gets almost all the calories he needs even though his diet is not as varied as it should be for good nutrition.

The fact that UAR-Egypt has done this well in maintaining the calorie count is due in large measure to U.S. food aid under the P.L. 480 program.

A new ERS study assesses the P.L. 480 contribution in meeting both the food needs of the Egyptian people and the country's need for economic development.

Population is growing rapidly. Food production is not. Only about 2½ per cent of the entire land area—the narrow strip irrigated by the Nile—gets enough water to produce crops. Yet the principal commodity grown on this limited acreage is not a food but cotton—the vital export crop that brings in most of the country's foreign exchange earnings. However, the major portion of the cultivated land is devoted to food production.

Cotton exports don't earn enough foreign exchange to let the UAR buy abroad the food it needs but doesn't produce. In addition to needed improvements in agriculture, the Egyptians must try at the same time to develop industry. P.L. 480 foods, sold mostly for Egyptian currency under Title I of the program, not only help to fill the food gap during the period of industrial development, but they keep the cost of living relatively stable. And they enable the UAR to use scarce foreign exchange to buy industrial goods needed for economic development.

P.L. 480 provided about three-fourths of all U.S. economic aid to the UAR from July 1945 to June 1962, even though the program didn't get rolling until 1955. Title I agreements have made foods available to the Egyptians at a total U.S. government cost of $1.1 billion.

For instance, the UAR grows only about half the wheat it needs; under P.L. 480 we supply all but a fraction of the rest. We also furnish nearly all imports of corn, the staple food in rural areas. Among the other commodities we ship are fats and oils, tobacco, rice, dairy products and poultry.

Through 1963 the U.S. had set aside over 70 per cent of its locally earned funds from P.L. 480 sales for use as loans to the UAR government. Some of the remaining funds go to defray U.S. embassy expenses.

The United Arab Republic will undoubtedly need foreign assistance for some time to come. By 1972 the government hopes to see some 2 million acres added to farmland through reclamation projects and completion of the Aswan High Dam. But population growth is expected to wipe out the effect of this added acreage even before it's available, and the arable land per person in 1972 will be about what it was in 1962.

Meantime, Egyptian youngsters don't face a lunch of black bread and onions. Some 3 million children get a nutritious lunch each day under one of the largest U.S.-supported school lunch programs in the world. *(34)*

Foreign Spotlight

Bonn reports net cash income of West German farmers much improved. At $1.5 billion, it was one-third higher in 1962/63 than the year before.

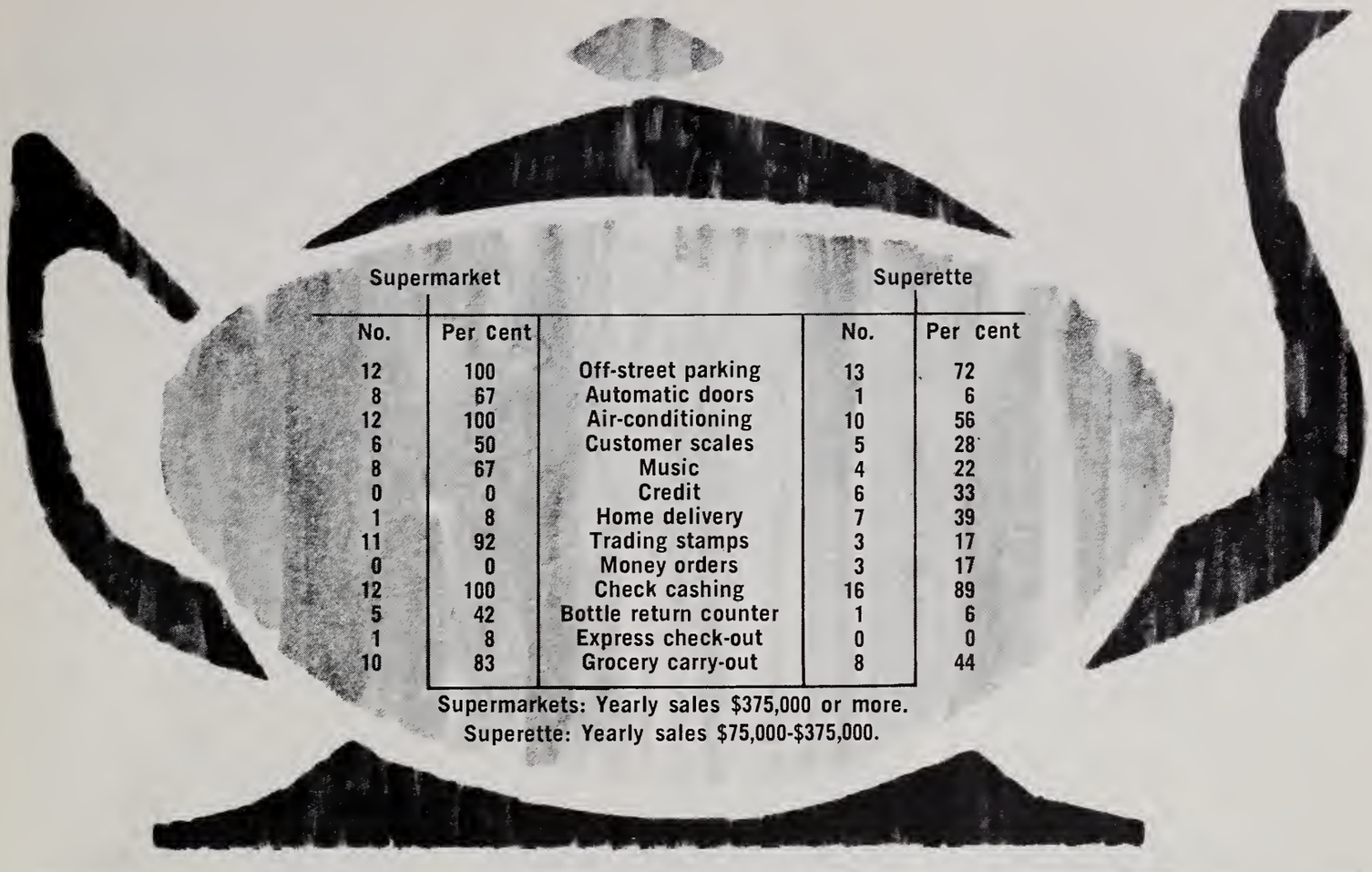
Now will higher farm income lead Bonn to soften its position in EEC negotiations on the proposed common price for feed grain?

Up to now Bonn has maintained that the common price should be close to the present German price, EEC's highest.

Chances are German farm groups will continue to press the Bonn government for more support and protection. And this pressure will probably still be evident in the government's stand on the EEC price for feed grain.

Farm groups point out that even though farm income is up, it's still nearly 30 percent below nonfarm wages.

This situation persists despite (1) government appropriations to agriculture in excess of $600 million, (2) a farm labor force declining about 3 per cent a year and (3) a record income from the sale of farm products. Bonn forecasts that farm cash receipts in 1963/64 will exceed $6 billion. *(35)*



Supermarket			Superette	
No.	Per cent		No.	Per cent
12	100	Off-street parking	13	72
8	67	Automatic doors	1	6
12	100	Air-conditioning	10	56
6	50	Customer scales	5	28
8	67	Music	4	22
0	0	Credit	6	33
1	8	Home delivery	7	39
11	92	Trading stamps	3	17
0	0	Money orders	3	17
12	100	Check cashing	16	89
5	42	Bottle return counter	1	6
1	8	Express check-out	0	0
10	83	Grocery carry-out	8	44

Supermarkets: Yearly sales $375,000 or more.
Superette: Yearly sales $75,000-$375,000.

today's food store: the superservant

When it comes to buying the family's groceries, homemakers have Aladdin's genie at their beck and call.

From prepackaged meats to push carts, money orders and automatic doors, today's supermarkets offer an endless array of customer services to speed shopping and lighten the kitchen chores.

Most smaller superettes, on the other hand, provide several of these and many of the old-time services that some housewives still prefer—chiefly credit and longer operating hours.

Just how varied customer services have become is evident in an ERS study. The basic purpose of the study was to find out about prices in grocery stores of all kinds.

Researchers spent a year collecting information twice a week in 30 food stores, from supermarkets to superettes, in Greensboro, North Carolina, an urban community, and neighboring Burlington, a rural community.

Because these towns were selected from a typical urban-rural area which had all types of food stores, the study's findings can apply to other parts of the nation as well.

Packaging is one service customers seldom stop to think about. Take meats. Every store surveyed had some fresh meats already trimmed or ground and packaged. Supermarkets packaged from 97 to 99 per cent of their meats—and this meant packaging some 75 separate kinds of meat and poultry items. This service lets the housewife pick her own meat, easily and speedily. But if she wants a special cut, then of course the butcher is there to fill her order.

The vast array of food items, with a selection of several brands in most categories, is another generally unrecognized service of retail grocers. The big stores, for example, offered well over 70 varieties of canned vegetables. Some of the smaller stores offered as many as 60 kinds. (See the Farm INDEX, Oct. '63.)

All supermarkets and all the newer superettes provided an off-street parking space for their customers, but a few of the older, generally smaller superettes didn't.

Only one of the neighborhood superettes in the study had a special bottle return counter, though about a third of the big stores did.

Size of store had little to do with whether the shopper would find scales to weigh her produce,

but the kind of store did. About half the supermarkets and a fourth of the superettes—usually the older, smaller ones — made scales available.

Bigness and newness were the guide to air-conditioned comfort. Every one of the supermarkets in the area was air-conditioned, while only about half the superettes were.

Want music while walking through the aisles? Stop in at many of these stores—they surround their cake mixes, carrots and customers with music. About two out of three supermarkets and some of the neighborhood superettes piped in music.

When paying for your food, it's strictly cash-and-carry with the big stores. Credit was left to long-established superettes, with about a third of them willing to charge the bill.

However, just about all the stores would cash a check for you, though a few of the smaller ones did not make a practice of this.

Trading stamps go with store size. Most of the big ones offered them; less than one in five of the superettes did.

One way or another, most of the stores tried to make it easier to get out of the store with the groceries. Two out of three of the big stores had automatic doors and provided carryout service. The superettes were pretty good about giving a hand with the groceries too—about half of them had carryout service—more than a third will deliver them to your home.

And if you want to buy a money order while doing your shopping, about one out of five stores in the area would sell you one.

Why do stores provide these services and conveniences? Largely to draw customers and to build store loyalty. Homemakers shop for food 52 weeks a year. Their repeat business is important to grocers, large or small. *(36)*

Entire Meals Planned on Sale Foods Are Good for Family, Fido and Finances

"Hey, Mom! What's for dinner?"

Whatever was on sale this weekend is the thrifty answer for housewives, according to the Greensboro-Burlington study (see preceding article).

Buying sale items isn't news. Homemakers have been watching newspaper grocery ads and taking advantage of weekend specials for years. Usually they bought one meat item on sale. Or canned peaches. Or perhaps 10 pounds of potatoes.

What is news is that entire menus can be built around sale items—and the family food budget shrinks accordingly.

Study enumerators checked prices on more than 250 food items. They checked twice a week for a full year. And they checked in 30 retail food stores, picked because they were a cross section of supermarkets and smaller neighborhood superettes.

Mountains of price figures were collected and most are still being analyzed. But sale data already interpreted for just one month show a significant trend:

Meat, including poultry and fish, was the food item most frequently on sale. This is important because meat accounts for about one-third of the family's weekly food bill.

Among the meats on sale, chuck roast showed up most often. The housewife could save, on the average, 16-17 cents a pound by buying chuck on a weekend sale day. Incidentally, far more items, meats as well as other foods, were available — and sale-priced — on weekends than on other days.

Whole frying chickens ranked second as the meat item most often featured at sale prices. Then down the line in order of decreasing frequency came ground beef, luncheon meat, salmon, tuna fish, chicken breasts, round steak and pork chops. Quite a variety for the enterprising homemaker to build attractive meals around.

A check of one store alone showed round steak, turkey and bacon all on sale the same weekend—three meals or more for the average family, depending on how far Mom could stretch the turkey. The next weekend the same store featured sales on ham and canned beef stew.

Going back to the full 30-store sample, it looks like a dietician planned the sales menu. After meats, the items most often sales-priced were vegetables, chiefly fresh, dairy products, fats and oils, fruit and vegetables juices, fresh and canned fruits and coffee and soft drinks. Sugar and sweets were almost never on sale.

Homemakers can also save money by watching for sales on packaged items. For example, a national brand of coffee was four cents below regular price per pound in several of the survey stores during the month. And one weekend some supermarkets reduced their private brands about 20 cents a pound.

What does all this mean for a family of four, say, which includes two hungry teenagers?

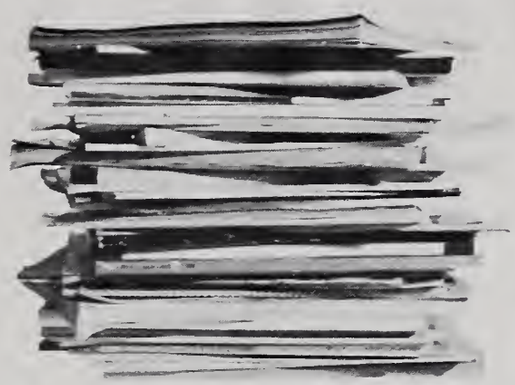
ERS economists found that if the wife shops just the food stores in one immediate area and takes advantage of weekend sales, plus generally thrifty buying, she can save 6 per cent on the family's weekly food bill of about $30.

This doesn't count the nonfood items she buys which on the average can add another 20 per cent to her week's total bill. Watching for sales of detergents, hand creams and the like can save money, too.

Even the family pet can eat better for less. Dog and cat foods show up regularly on the sale list. *(37)*

recent publications

The following publications are issued by the Economic Research Service and cooperatively by the state universities and colleges. Unless otherwise noted, reports listed here and under Sources *are published by ERS. Single copies are available free from the Division of Information, OMS, U.S. Department of Agriculture, Washington, D.C. 20250. State publications (descriptions below include name of experiment station or university after title) may be obtained from the issuing agencies of the respective states.*



CONTRIBUTION OF PUBLIC LAW 480 TO DEVELOPMENT OF THE GREEK ECONOMY. Susan A. Libbin, Development and Trade Analysis Division. ERS-Foreign-66.

Imports of feed grains under Public Law 480, Title I, have enabled Greece to meet the increasing demand for grains necessary to support an expansion of livestock production. Title I has also allowed imports of soybean oil to Greece which have relieved temporary shortages. The proceeds have been used in development of the country's transportation, power, and housing facilities. (See June 1963 Farm INDEX.)

ECONOMIC ASPECTS OF SPECIFIC PATHOGEN FREE HOG PRODUCTION. Paul A. Andrilenas, Farm Production Economics Division. ERS-142.

The report aims at determining the least-cost method of repopulating individual farms raising hogs and at estimating the possible financial benefits of SPF hog production compared to conventional methods. SPF hogs have more feeding efficiency than conventional hogs because the risk of two growth-retarding diseases, virus pneumonia and atrophic rhinitis, is reduced.

SOCIOCULTURAL ORIGINS AND MIGRATION PATTERNS OF YOUNG MEN FROM EASTERN KENTUCKY. Harry K. Schwarzweller, University of Kentucky. Kentucky Agricultural Experiment Station Bulletin 685.

Job opportunities for young men in eastern Kentucky are limited, resulting in a great stream of out-migration of youth, especially to industrial areas in the Ohio Valley. A key question is, therefore, "What happens to these young people after they leave school, and are youths who fail to complete high school at a disadvantage in the labor market?" This first report describes the sociocultural origins, background characteristics, migratory patterns, and residential mobility aspirations of the study population.

SWEETENERS USED BY FOOD PROCESSING INDUSTRIES — THEIR COMPETITIVE POSITION IN THE UNITED STATES. Roy A. Ballinger and L. C. Larkin, Marketing Economics Division. AER-48.

Industrial food processors are the largest users of sweeteners in the United States. Sugar is still the primary sweetener used by food processors but its position in the manufacture of a number of products is weakening. (See February 1964 Farm INDEX.)

PLANNING THE FARM FOR PROFIT AND STABILITY. Neil W. Johnson and Merton S. Parsons, Farm Production Economics Division, Farmers' Bulletin 1965.

A farmer has to "count his chickens before they hatch." This bulletin gives the farmer detailed

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Speech (S); published report (P); unpublished manuscript (M); special material (SM).

information on how to take stock of resources, choose crops and livestock enterprises and combine them into a balanced farm plan, and develop land on both a year-to-year and longtime basis.

Consumer Fair

The Department of Agriculture is having a Food and Home Fair, throwing its doors wide open to the public for three weeks of demonstrations, displays and exhibits on the services the department offers the public.

The April 14-30 fair will provide a glimpse of new food products coming up from USDA, demonstrate the latest developments in food and clothing research and exhibit new cotton and woolen fabrics. There will be an energy-saving kitchen on view and an array of new flowers and plants for the gardener.

The fair will offer the family shopper tips on getting the most from her food money, pointers on the meaning of USDA's inspection and grading marks, and budgets for household purchases.

The Food and Home Fair, housed in the department's patio in Washington, will be opened by Secretary of Agriculture Orville Freeman. *(12)*

THE FARM INDEX

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